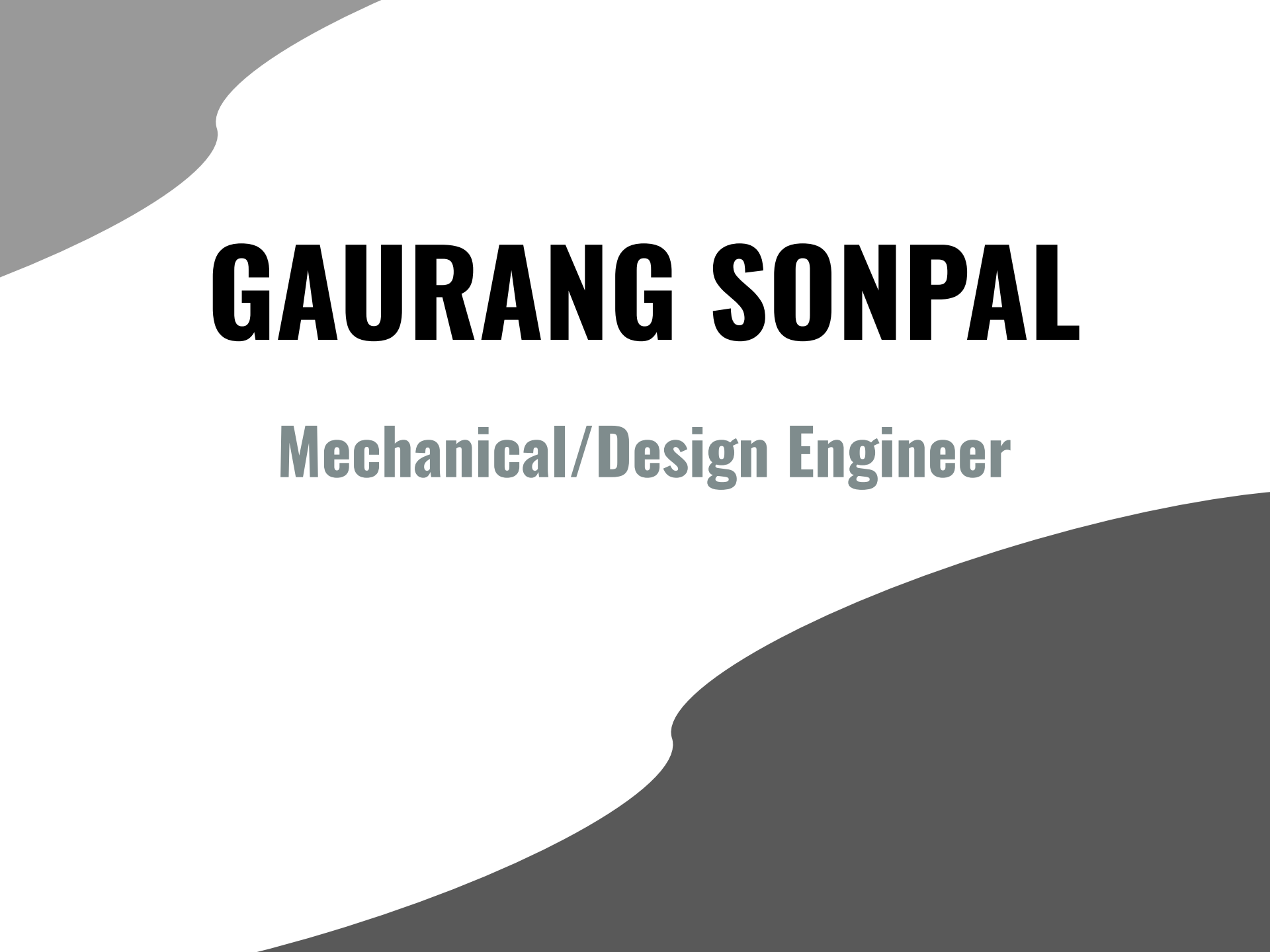


The background features abstract, organic grey shapes. A large, light grey shape is in the top-left corner, and a larger, darker grey shape is in the bottom-right corner, both with irregular, flowing edges.

GAURANG SONPAL

Mechanical/Design Engineer

ABOUT ME



Recently, I have completed my MBA at Dublin Business School focussing on project management.



I was part of Hamilton form as a Design engineer working on custom steel forms for the precast industry.



I have been part of VOLTEA INC as a Mechanical engineer - an industry leader in water purifying CAPDi Technology.



As a Graduate Research Assistant , during my master's program at University of Texas - I worked on improving the design of Aerospace hinges.

My core strengths include, but are not limited to CAD, manufacturing processes, product development and project management.



M.B.A (In Project management)

Dissertation

Developing a PLM Framework for Integrating Traditional and
Cloud-Based Systems in ETO Manufacturing Environments

Key concepts learned

International business dynamics and cultural intelligence

PMBOK, PRINCE2, and Agile methodologies

Conflict resolution and decision-making models

Risk management and mitigation planning

Change management and strategy implementation

Project quality management and earned value analysis (EVA)

Hamilton form (2020-2023)

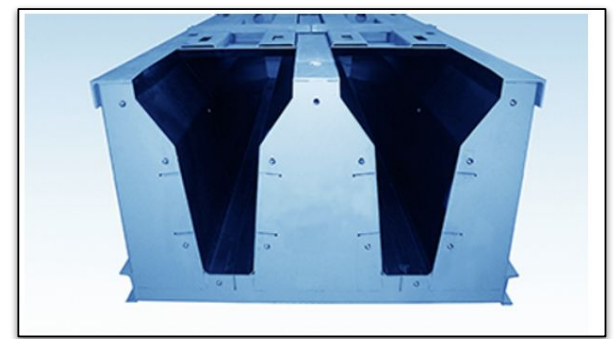
- Hamilton Form Company builds **custom steel forms** for the precast, prestressed concrete industry.
- Working as a Design Engineer for Hamilton form, my duties included designing and modelling custom forms using **CAD**.
- Some of my work includes designing formwork for girders, columns, grid tables, soffits, stair forms, double tee, barrier forms etc.



DOUBLE TEE



STADIA FORM



BARRIER FORM

Voltea (2018-2020)

- Voltea employs the use of **Capacitive deionization (CapDI)** technology to remove dissolved salts from water.
- Working as a Mechanical Engineer at Voltea, My duties include, designing and improving systems (modules) that make use of CapDI as their underlying technology.
- I primarily used **Solidworks** as the CAD software and Windchill as the PDM tool.



C-3 Module



C-5 Module



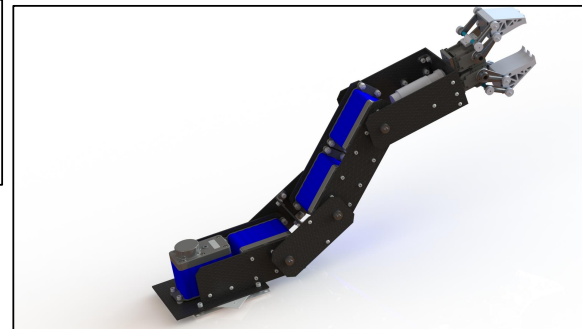
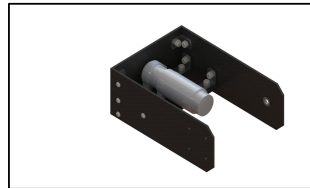
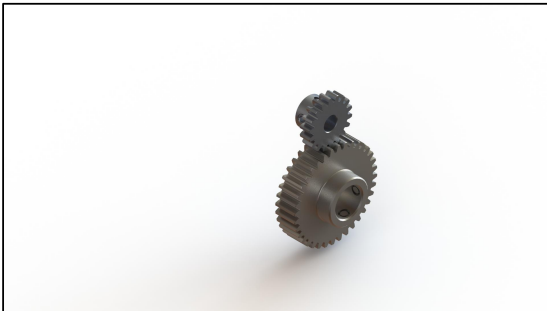
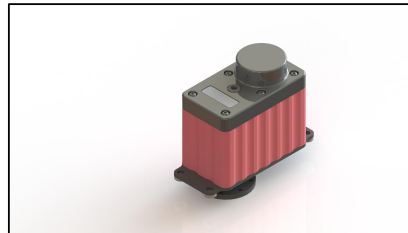
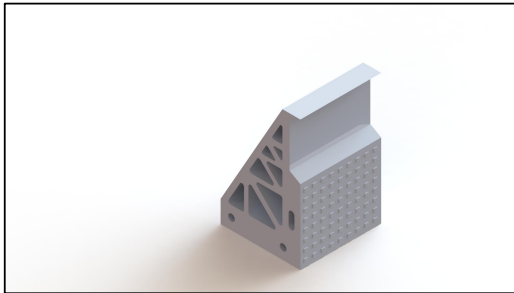
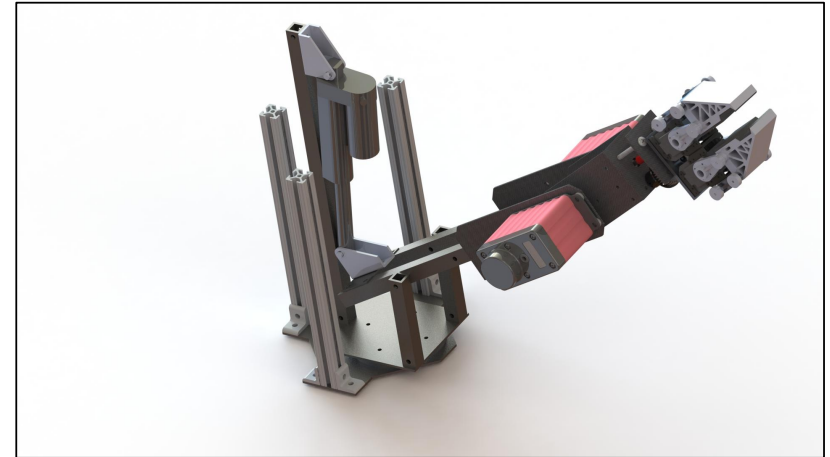
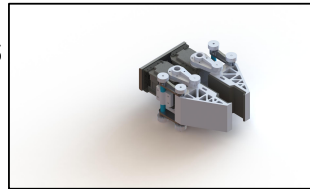
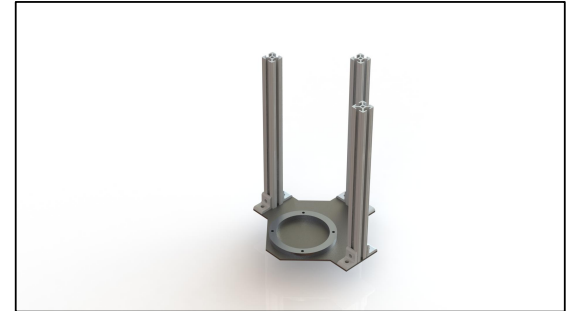
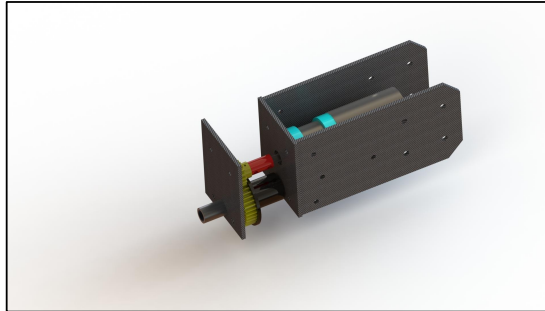
C-12 Module



C-17 Module

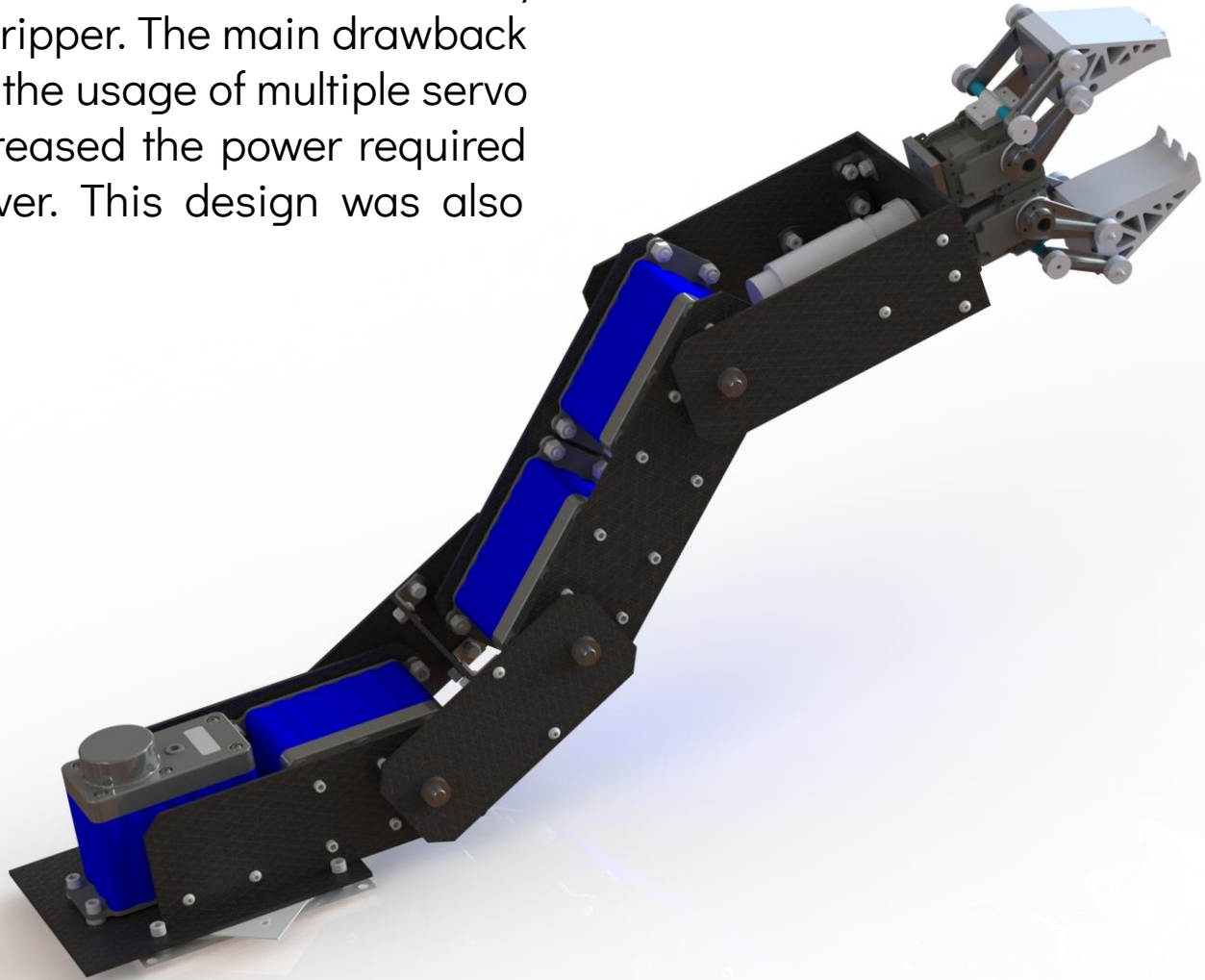
THE ROVER PROJECT (2016-2018)

I was involved in the design and development of Rover technology that will one day be used to explore the surface of Mars. The ROVER SOCIETY at the University of Texas at Arlington is one of many Rover societies around the world that pushes the boundaries of Robotics and AI.



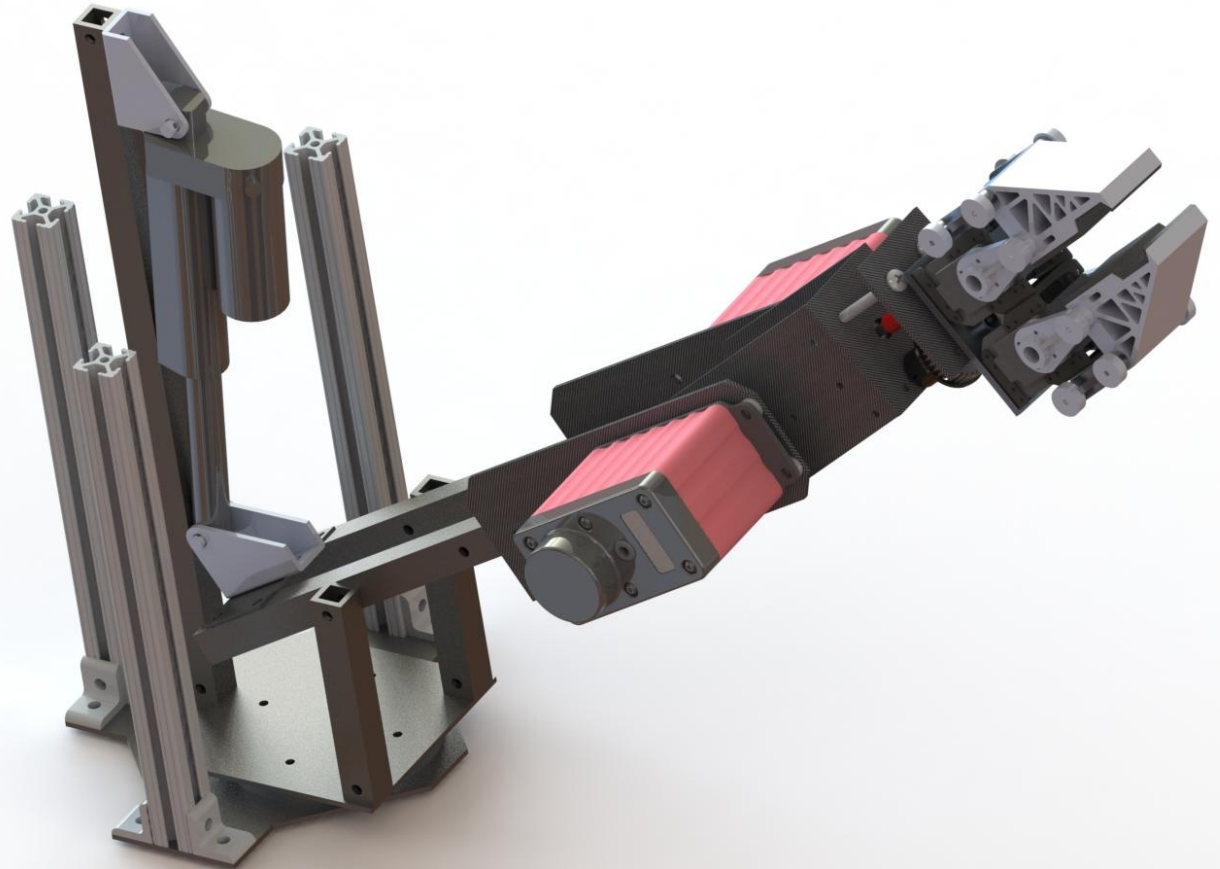
MARK- 01

The Mark - 01 was the 1st iteration for the rover design. Its defining features were the use of 4 servo motors for motion of the rover arm. Also the 12 RPM motor was directly connected to the gripper. The main drawback of this design was the usage of multiple servo motors, which increased the power required to operate the rover. This design was also quite heavy.



MARK - 02

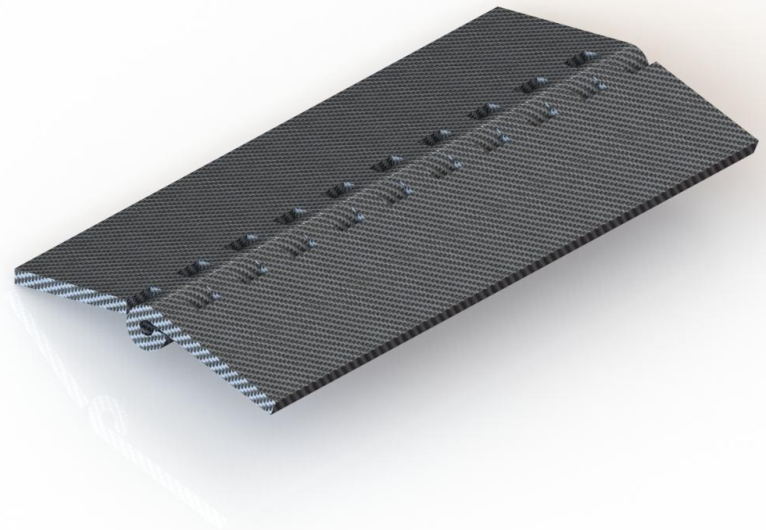
The MARK - 02 was the updated version for the rover. It had significant improvements over Mark-01. It used fewer servo motors than the Mark-01, making it lighter and more energy efficient. It used a linear actuator for the vertical motion of the arm. It included a wrist to rotate the gripper.



MASTER THESIS (2017-2018)

Finite Element Analysis and Design Improvement of Aerospace Composite Hinge

- Using **Solidworks** as a CAD tool a military grade continuous hinge model was created.
- The model was then analyzed in both Ansys and Abaqus for load conditions.
- Standard hinge material including Aluminum and Steel were used for analysis.
- Using Composite material an updated hinge design was created.
- Static and Dynamic analysis were done on the composite model using Abaqus and Ansys.



THANK YOU

Feel free to get in touch !

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